



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,501	05/23/2006	Petrus Christianus Franciscus Maas	NL 031427	2333
24737 7590 01/25/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER DISTEFANO, GREGORY A	
			ART UNIT 2176	PAPER NUMBER
			MAIL DATE 01/25/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/580,501

Applicant(s)

MAAS, PETRUS CHRISTIANUS  
FRANCISCUS

Examiner

Gregory A. DiStefano

Art Unit

2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is in response to the application filed on 5/23/2006.
2. Claims 1-9 have been submitted for examination.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 9 is directed to "a computer program product" which may be interpreted to be purely software. Computer software fails to meet the 35 USC 101 requirement that the invention be "a process, machine, manufacture, or composition of matter". A suggested amendment to alleviate this issue would be to place the software on a tangible computer readable medium.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claims 1 and 8, the phrase "in particular for medical applications" in claims 1 and 8, renders the claims indefinite because it is unclear whether this language is intended to limit the scope of the present invention. This language should either be amended to positively recite that the "system" of Claim 1 and the "method" of Claim 8 is for displaying images in software medical applications or deleted. See MPEP § 2173.05(d).

8. Claims 2-7 and 9 are rejected as being dependent upon a previously rejected parent claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (2002/0097239), hereinafter Allen.

9. As per claims 1 and 8, Allen teaches the following:

*an input (35) for receiving the image data set, (pg. 2, paragraph [0014]), i.e. the storage system 12 will include a plurality of storage locations which may be divided into*

a program storage 16 for storing programs for execution and a data storage 16 for storing data. From this teaching of Allen it is clear that in order for the memory to contain such data, the system must possess an input device to place the data in memory;

*a memory (39) for storing the image data set, (pg. 2, paragraph [0014]), i.e. the storage system 12 will include a plurality of storage locations which may be divided into a program storage 16 for storing programs for execution and a data storage 16 for storing data;*

*an interface for receiving instructions from a user, the interface comprising a manipulation unit (37, 38), (pg. 2, paragraph [0017]), i.e. the user can, through the user interface 13, identify particular regions of the object 21 to be displayed through commands issued through the user interface 13;*

*-a processor (36) for, under control of a computer program, (pg. 2, paragraph [0016]), i.e. the debugger program 20 enables the processor 11 to display selected regions of the object 21 to the user on display 14;*

*-enabling a user to select a respective subrange of the range of values by scrolling substantially parallel to a horizontal x-axis or a vertical y-axis of a display via the manipulation unit (37, 38), (pg. 2, paragraph [0020]), i.e. the large square slider 32, in conjunction with the numbers "2" and "3" in boxes situated to the left of the slider 32 and the slider 33 with the number "1" in the box situated to the left of slider 33, indicates that the object 21 whose data is to be used in the display is an object comprising an*

array whose elements are organized in three dimensions, that is, an object, such as an array in which each element of data is identified by a coordinate value along three axes;

*-enabling a user to select a value for the additional attribute by scrolling substantially parallel to an imaginary z-axis via the manipulation unit (37, 38), (pg. 2, paragraph [0020]), i.e. the large square slider 32, in conjunction with the numbers "2" and "3" in boxes situated to the left of the slider 32 and the slider 33 with the number "1" in the box situated to the left of slider 33, indicates that the object 21 whose data is to be used in the display is an object comprising an array whose elements are organized in three dimensions, that is, an object, such as an array in which each element of data is identified by a coordinate value along three axes;*

*-determining the subset, by selecting images (3) which for the at least one attribute of the set have values in the respective subrange and which also have the value for the additional attribute, (pg. 3, paragraph [0023]), i.e. the processor 11 enables the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as indicated by the sliders 32 and 33;*

*-generating a view of the subset of images (3), (pg. 3, paragraph [0023]), i.e. the processor 11 enables the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as indicated by the sliders 32 and 33;*

*an output (33) for providing pixel values of the view for rendering on a display (34), (pg. 3, paragraph [0023]), i.e. the processor 11 enables the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as*

indicated by the sliders 32 and 33. The examiner would like to further make note of paragraph [0028] on pages 3 and 4 which discusses pixel values.

Further regarding applicant's claim that their system is "in particular for medical applications", Allen anticipated their system to be utilized in medical applications as may be seen in their showings of Figs. 3B and 3C.

10. Regarding claim 2, Allen teaches the system of claim 1 as described above.

Allen further teaches the following:

*the manipulation unit comprises a pointer device (38) and the imaginary z-axis is being realized in a line extending between the x-axis and the y-axis, (pg. 1, paragraph [0014]), i.e. a user interface 13 for receiving input from a user via, for example, a keyboard and a pointing device such as a mouse.*

Regarding applicant's limitation of the imaginary z-axis, this may be seen in Fig. 4A where axis 3 is extending in a z direction in between axes 1 and 2.

11. Regarding claim 3, modified Allen teaches the system of claim 1 as described above. Allen further teaches the following:

*a mouse pointer is provided for providing visual feedback during selection of the subranges or the value of the additional attribute, (pg. 1, paragraph [0014]), i.e. a user interface 13 for receiving input from a user via, for example, a keyboard and a pointing device such as a mouse.*

12. Regarding claim 4, Allen teaches the system of claim 1 as described above.

Allen further teaches the following:

*an indicator is provided for indicating along which of the three axes scrolling is possible, (pg. 2, paragraph [0020]), i.e. the large square slider 32, in conjunction with the numbers "2" and "3" in boxes situated to the left of the slider 32 and the slider 33 with the number "1" in the box situated to the left of slider 33, indicates that the object 21 whose data is to be used in the display is an object comprising an array whose elements are organized in three dimensions, that is, an object, such as an array in which each element of data is identified by a coordinate value along three axes.*

13. Regarding claim 9, Allen teaches the following:

*a computer program product to cause a processor to perform the method of claim 8, (pg. 2, paragraph [0016]), i.e. the debugger program 20 enables the processor 11 to display selected regions of the object 21 to the user on display 14*

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen as applied to claim 1 above in view of Dobbelaar (US 6,538,672).



16. Regarding claim 5, Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where the attributes represented by each of the three axes may be configured. Dobbelaar teaches the following:

*a configuration dialog (100) is provided for configuring which attributes are represented by each of the three axes, (column 7, lines 50-53), i.e. the user may be allowed to assign another program attribute to the axis 21, e.g. using on-screen display menus, which is a well known way in the art for changing system parameters.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the graphical representation method of Allen with the axis attribute setting method of Dobbelaar. One of ordinary skill would have been motivated to have made such modifications because both Allen and Dobbelaar are analogous art in the field of arranging data according to multiple axes on a display. Furthermore, as Allen describes on pg. 3, paragraph [0022], that an object element may have any number of dimensions, each associated with an axis. It would have been obvious to one of ordinary skill to present the user with a means to select which dimensions to present. As Dobbelaar teaches in column 7, lines 52-53, using on-screen display menus was a well known skill in the art for changing system parameters.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen as applied to claim 1 above in view of Gargi (US 6,915,489).

18. Regarding claim 6, Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where an attribute is periodically increased or decreased. Gargi teaches the following:

*the processor (36) is arranged for, under control of the computer program, changing the subset by periodically increasing or decreasing the value of an attribute of the set or the value of the additional attribute, (column 5, lines 25-27), i.e. by positioning the cursor 62 in alignment with the incrementing icon 68 for a set period of time, a second stack will be presented to the user; and*

*changing the view according to the changed subset, (column 5, lines 25-27), i.e. by positioning the cursor 62 in alignment with the incrementing icon 68 for a set period of time, a second stack will be presented to the user.*

It would have been obvious to one of ordinary skill in the art would have modified the data navigation method of Allen with the periodic transition method of Gargi. One of ordinary skill in the art would have been motivated to have made such modifications because Allen and Gargi are analogous art in the field of visualizing and arranging data in multiple dimensions. While Gargi's method is chiefly focused to that of image browsing, Allen shows that there method may also be directed towards images in their showings of Figs. 3b-3e. Gargi may be interpreted as a two dimensional array in that each "stack" of images presented to the user has a specific order of images. Therefore, the image data is organized in stack number and position within that stack. This is very similar to Allen's method as shown in Fig. 4A where elements are organized in a plane number and position in that plane.

19. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen as applied to claim 1 above in view of Takabayashi et al. (US 2003/0158476), hereinafter Takabayashi.

20. Regarding claim 7, Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where the images are periodically changed with respect to a further attribute. Takabayashi teaches the following:

*the processor (36) is arranged for, under control of the computer program, periodically increasing or decreasing a value of a further attribute of each image (3), said value not being selectable by scrolling substantially parallel to one of the three axes, (pg. 4, paragraph [0050]), i.e. Fig. 6 shows the flow of monitor scanning and imaging scanning according to an embodiment of the invention. Once the contrast agent has been injected, monitor scanning starts. During monitor scanning, the monitor images are updated successively at a display rate of one frame per second; and*

*changing the view according to the changed value, (pg. 4, paragraph [0050]), i.e. Fig. 6 shows the flow of monitor scanning and imaging scanning according to an embodiment of the invention. Once the contrast agent has been injected, monitor scanning starts. During monitor scanning, the monitor images are updated successively at a display rate of one frame per second.*

The examiner interprets Takabayashi's teaching of updating an image based on time to encompass applicant's claim in that, upon the modification of Allen in view of

Takabayashi, time would be a fourth dimension and thus not be selectable by scrolling the other three axes.

It would have been obvious to one of ordinary skill in the art to have modified the three dimensional display of Allen with the time dependent display of Takabayashi. One of ordinary skill in the art would have been motivated to have made such modifications because both Allen and Takabayashi are analogous art in the field of presenting images in a three dimensional environment (see Takabayashi Fig. 4). Furthermore, both arts show similar methods of placing elements in sets of planes as may be seen in Allen's showing of Fig. 4A and Takabayashi's showing of separate slices of a MIP image as shown in Figs. 4b and 4c.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

-Bates et al. (US 5,528,259), method and system for multi-dimensional scrolling of displayed data collections in data processing system.

-Rao et al. (US 5,880,742), spreadsheet image showing data items as indirect graphical representations.

-Higashio et al. (US 5,945,982), data administration apparatus that can search for desired image data using maps.

-Meier et al. (US 6,211,887), system and method for data visualization.

-Harada et al. (US 6,246,442), apparatus for displaying information arranged in cells.

-Aoki et al. (US 6,253,318), three dimensional data display method utilizing view point tracing and reduced document images.

-Rosasco (US 6,317,137), multi-threaded texture modulation for axis-aligned volume rendering.

-Sato et al. (US 6,370, 533), electronic meeting system information processor, and recording medium.

-Davies et al. (US 6,400,366), method and system for the interactive visualization and examination of data.

-MacPhail (US 6,501,469), arrangement of information to allow three-dimensional navigation through information displays with indication of intended starting point.

-Johnson et al. (US 6,928,314), system for two-dimensional and three-dimensional imaging of tubular structures in the human body.

-Pitkow (US 7,038,680), US 7,038,680), system for graphical display and interactive exploratory analysis of data and data relationships.

-Ramamoorthy (US 2002/0085219), method of and system for generating and viewing multi-dimensional images.

-Altamirano et al. (US 2004/0010587), method and apparatus for displaying real time graphical and digital wellbore information responsive to browser initiated client requests via the internet.

-Gao et al. (US 2004/0156540), automatic supervised classifier setup tool for semiconductor defects.

-Furudate et al. (US 2004/0165758), MRI apparatus and method for adjusting MR image display parameters.

-"The Complete Idiot's Guide® to Microsoft® Excel 2000" by Sherry Kinkoph, published by Alpha Books in 1999.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. DiStefano whose telephone number is (571)270-1644. The examiner can normally be reached on 7:30am-5:00pm Mon.-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on (571)272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/580,501  
Art Unit: 2176

Page 14

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GAD  
1/18/2008

*/Doug Hutton/*  
Doug Hutton  
Supervisory Primary Examiner  
Technology Center 2100